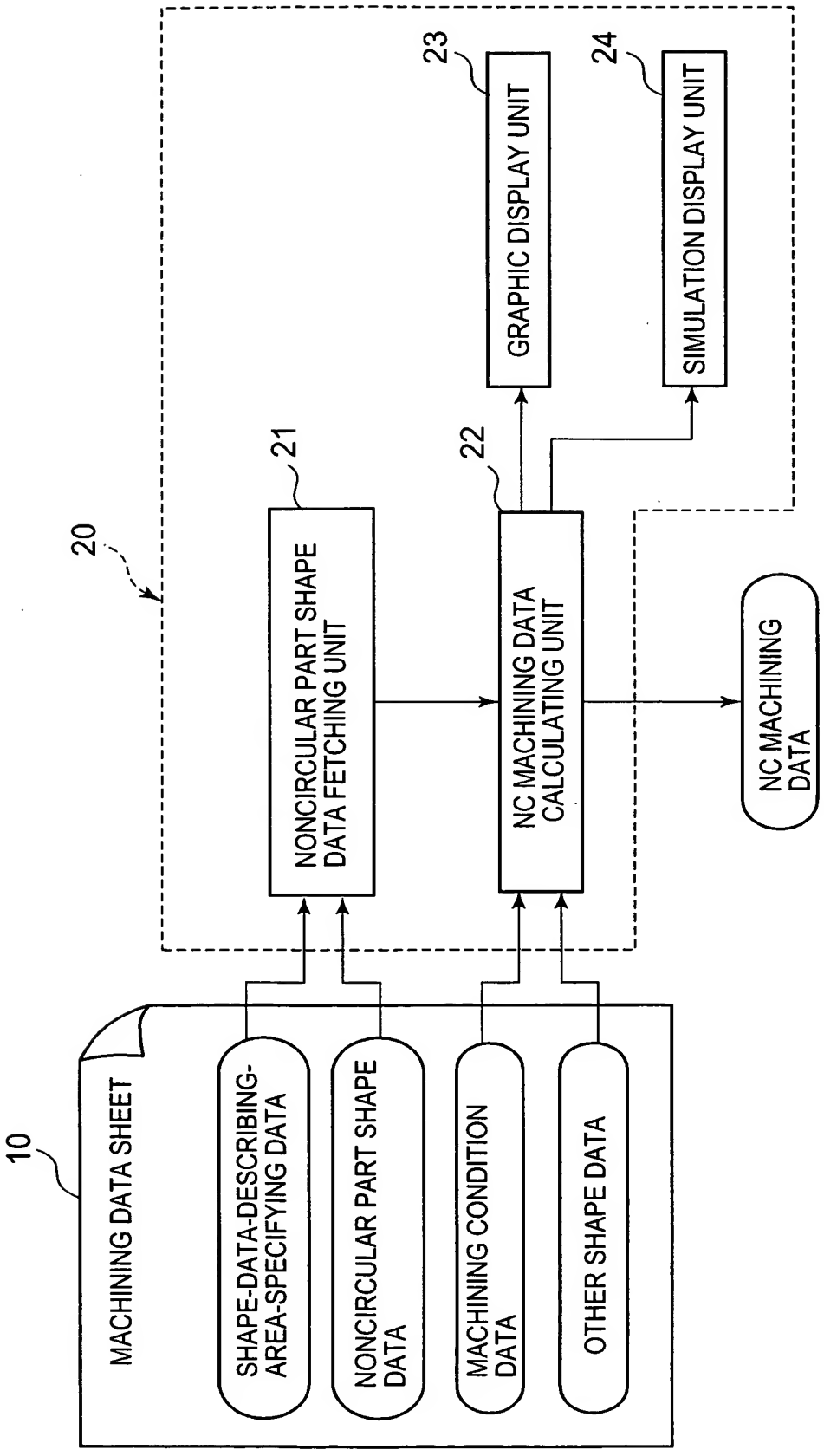
10
MACHINING DATA SHEET
SHAPE-DATA-DESCRIBING-AREA-SPECIFYING DATA
NONCIRCULAR PART SHAPE DATA
MACHINING CONDITION DATA
OTHER SHAPE DATA
20
21
NONCIRCULAR PART SHAPE DATA FETCHING UNIT
22
NC MACHINING DATA CALCULATING UNIT
23
GRAPHIC DISPLAY UNIT
24
SIMULATION DISPLAY UNIT
NC MACHINING DATA

FIG. 1

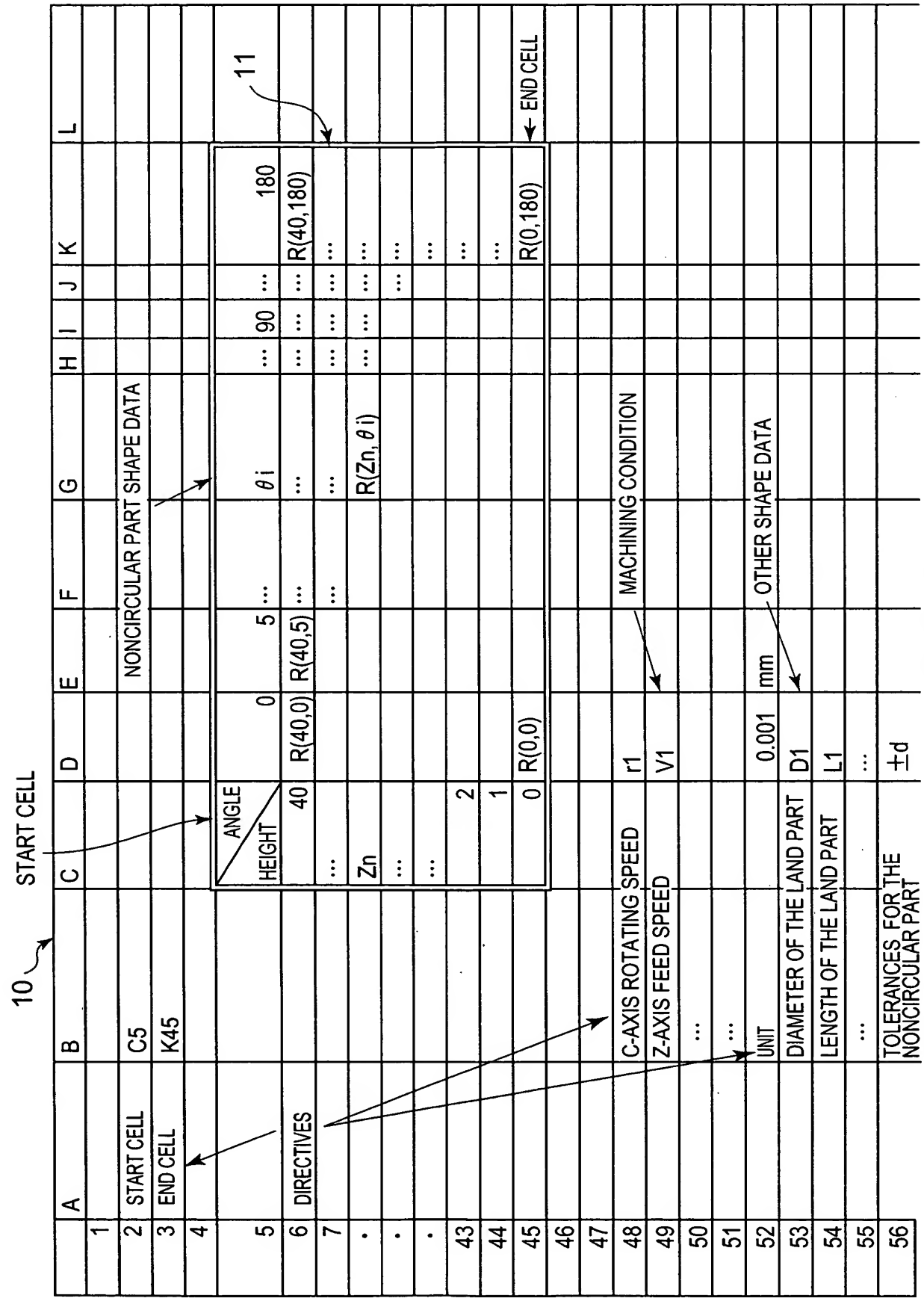
10
START CELL
11
NONCIRCULAR PART SHAPE DATA
MACHINING CONDITION
OTHER SHAPE DATA
END CELL
ANGLE
HEIGHT
DIRECTIVES
START CELL
END CELL
C5
K45
C-AXIS ROTATING SPEED
Z-AXIS FEED SPEED
UNIT
DIAMETER OF THE LAND PART
LENGTH OF THE LAND PART
TOLERANCES FOR THE NONCIRCULAR PART
r1
V1
mm
D1
L1
±d
R(40,0)
R(40,5)
R(0,0)
R(40,180)
R(0,180)
R(Zn, θ i)
Zn
θ i
0
5
90
180
40
2
1
0
0.001

FIG. 2

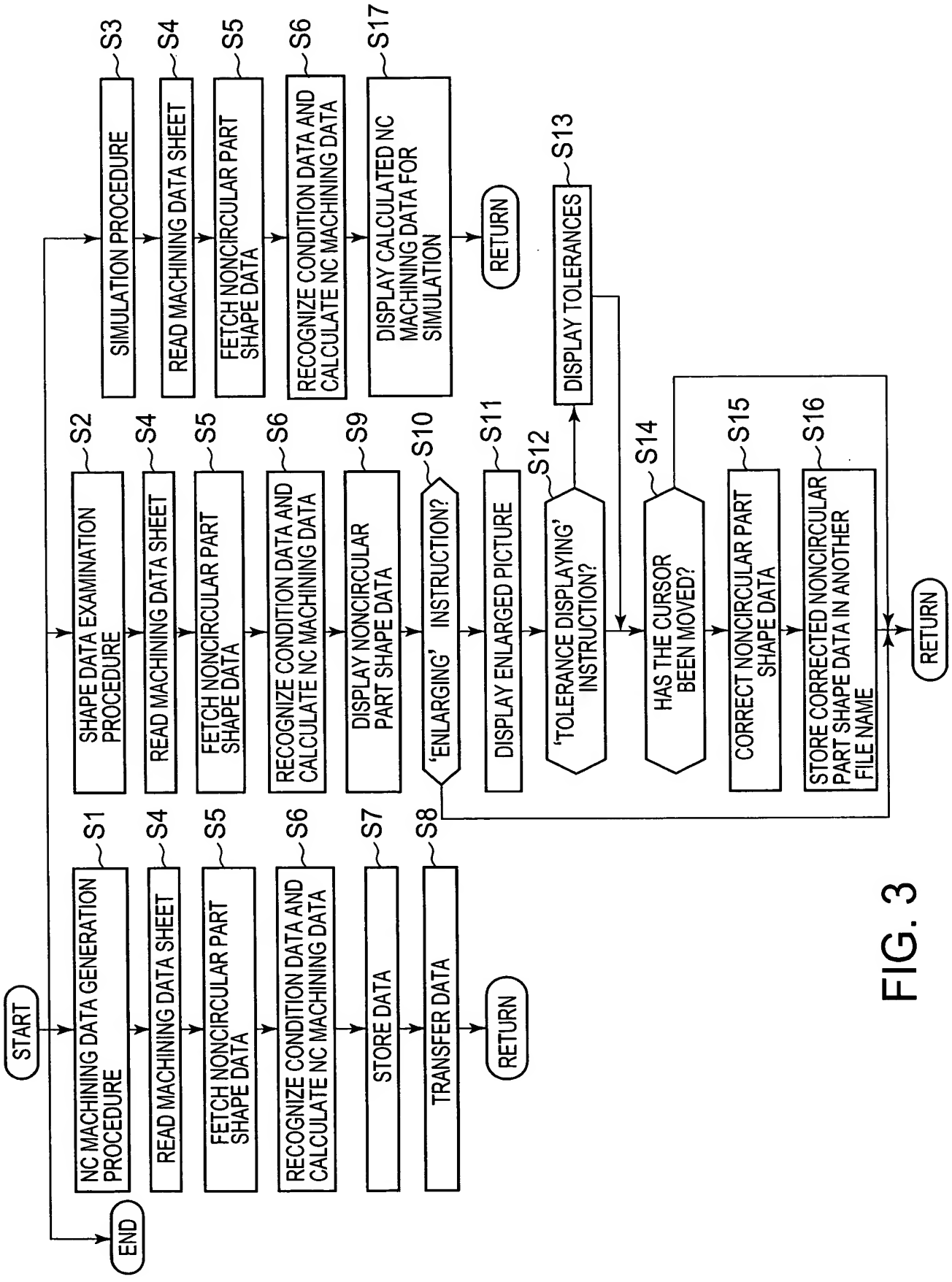
START
NC MACHINING DATA GENERATION PROCEDURE
S1
READ MACHINING DATA SHEET
S4
FETCH NONCIRCULAR PART SHAPE DATA
S5
RECOGNIZE CONDITION DATA AND CALCULATE NC MACHINING DATA
S6
STORE DATA
S7
TRANSFER DATA
S8
RETURN
END
SHAPE DATA EXAMINATION PROCEDURE
S2
SIMULATION PROCEDURE
S3
READ MACHINING DATA SHEET
S4
FETCH NONCIRCULAR PART SHAPE DATA
S5
RECOGNIZE CONDITION DATA AND CALCULATE NC MACHINING DATA
S6
DISPLAY NONCIRCULAR PART SHAPE DATA
S9
'ENLARGING' INSTRUCTION?
S10
DISPLAY CALCULATED NC MACHINING DATA FOR SIMULATION
S17
RETURN
DISPLAY ENLARGED PICTURE
S11
'TOLERANCE DISPLAYING' INSTRUCTION?
S12
DISPLAY TOLERANCES
S13
HAS THE CURSOR BEEN MOVED?
S14
CORRECT NONCIRCULAR PART SHAPE DATA
S15
STORE CORRECTED NONCIRCULAR PART SHAPE DATA IN ANOTHER FILE NAME
S16
RETURN

FIG. 3

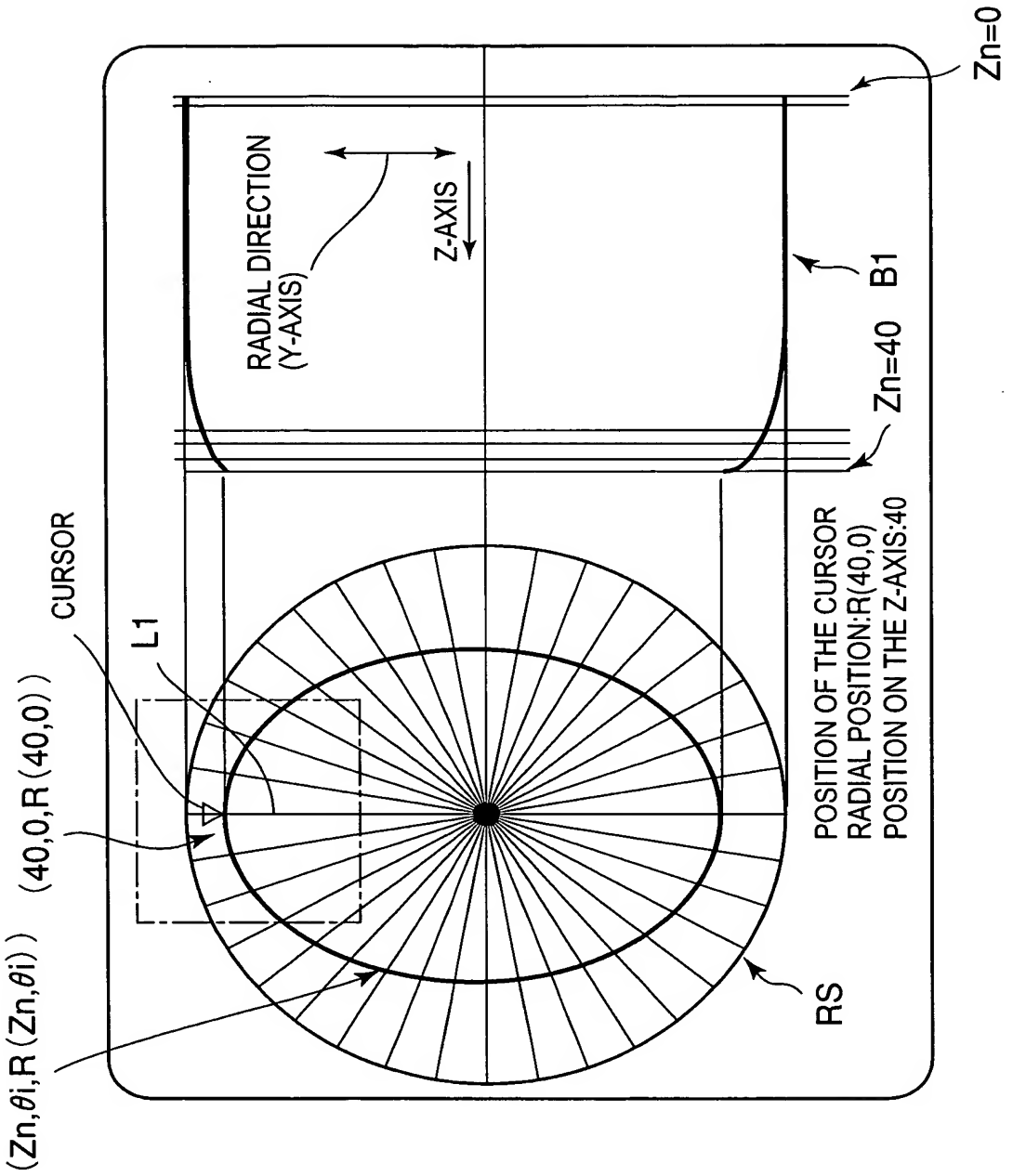
Zn=0
RADIAL DIRECTION
(Y-AXIS)
Z-AXIS
B1
Zn=40
CURSOR
L1
(40,0,R(40,0))
(Zn,θi,R(Zn,θi))
POSITION OF THE CURSOR
RADIAL POSITION:R(40,0)
POSITION ON THE Z-AXIS:40
RS

FIG. 4

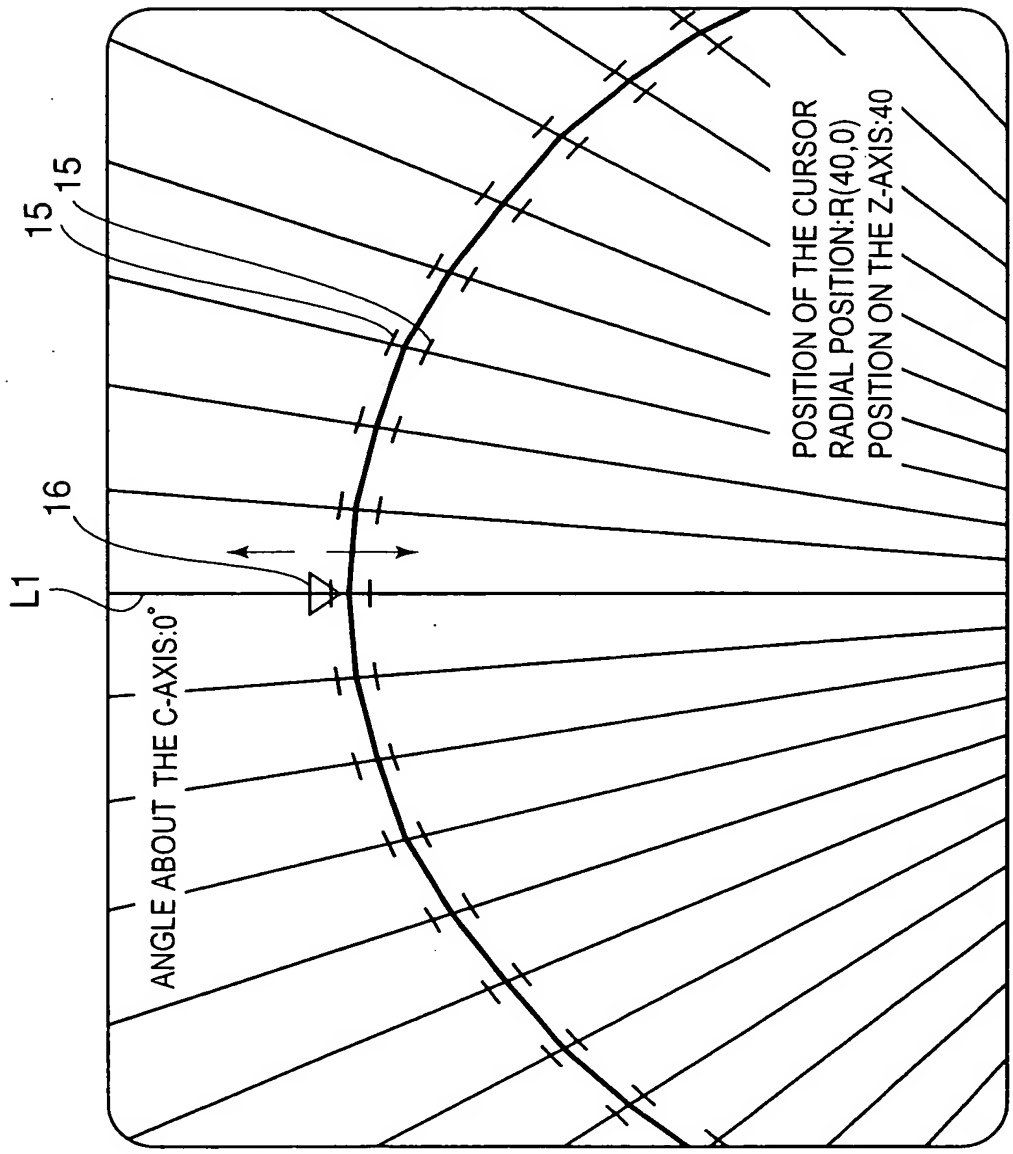
15
15
16
L1
ANGLE ABOUT THE C-AXIS:0°
POSITION OF THE CURSOR
RADIAL POSITION:R(40,0)
POSITION ON THE Z-AXIS:40

FIG. 5

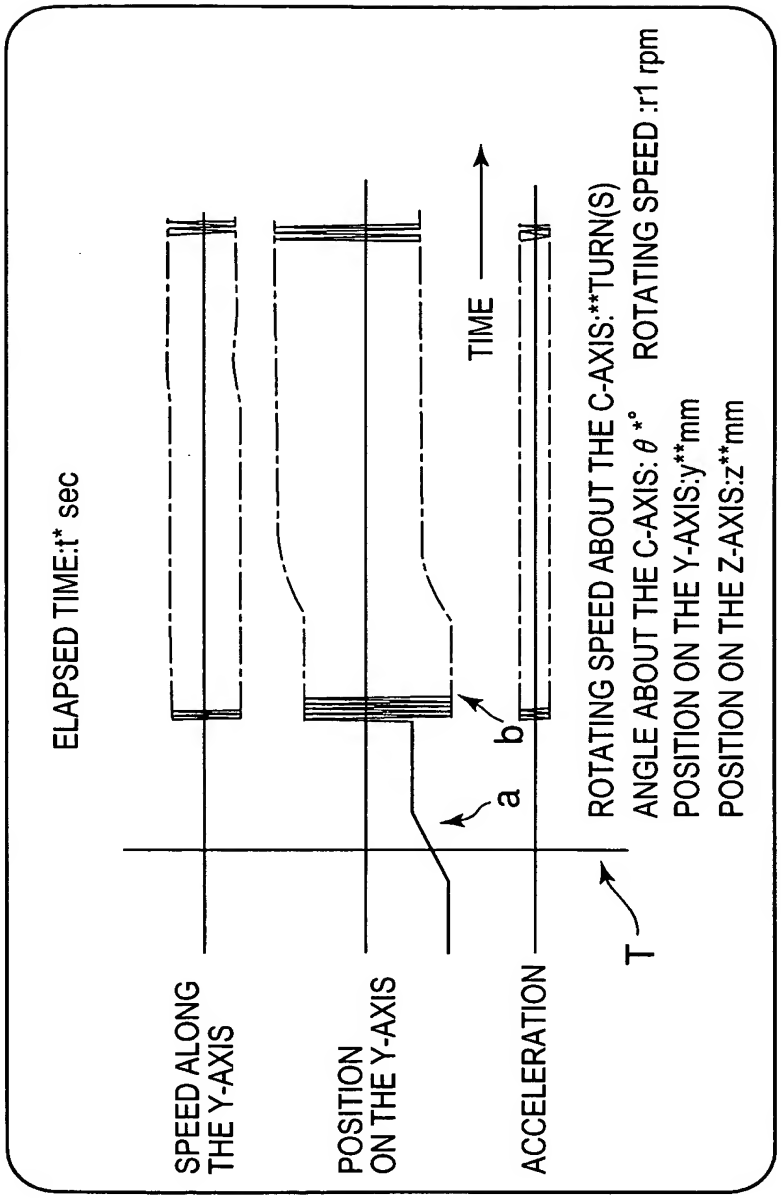
ELAPSED TIME:t* sec
SPEED ALONG THE Y-AXIS
POSITION ON THE Y-AXIS
ACCELERATION
TIME
a
b
T
ROTATING SPEED ABOUT THE C-AXIS:**TURN(S)
ANGLE ABOUT THE C-AXIS: θ*° ROTATING SPEED :r1 rpm
POSITION ON THE Y-AXIS:y**mm
POSITION ON THE Z-AXIS:z**mm

FIG. 6

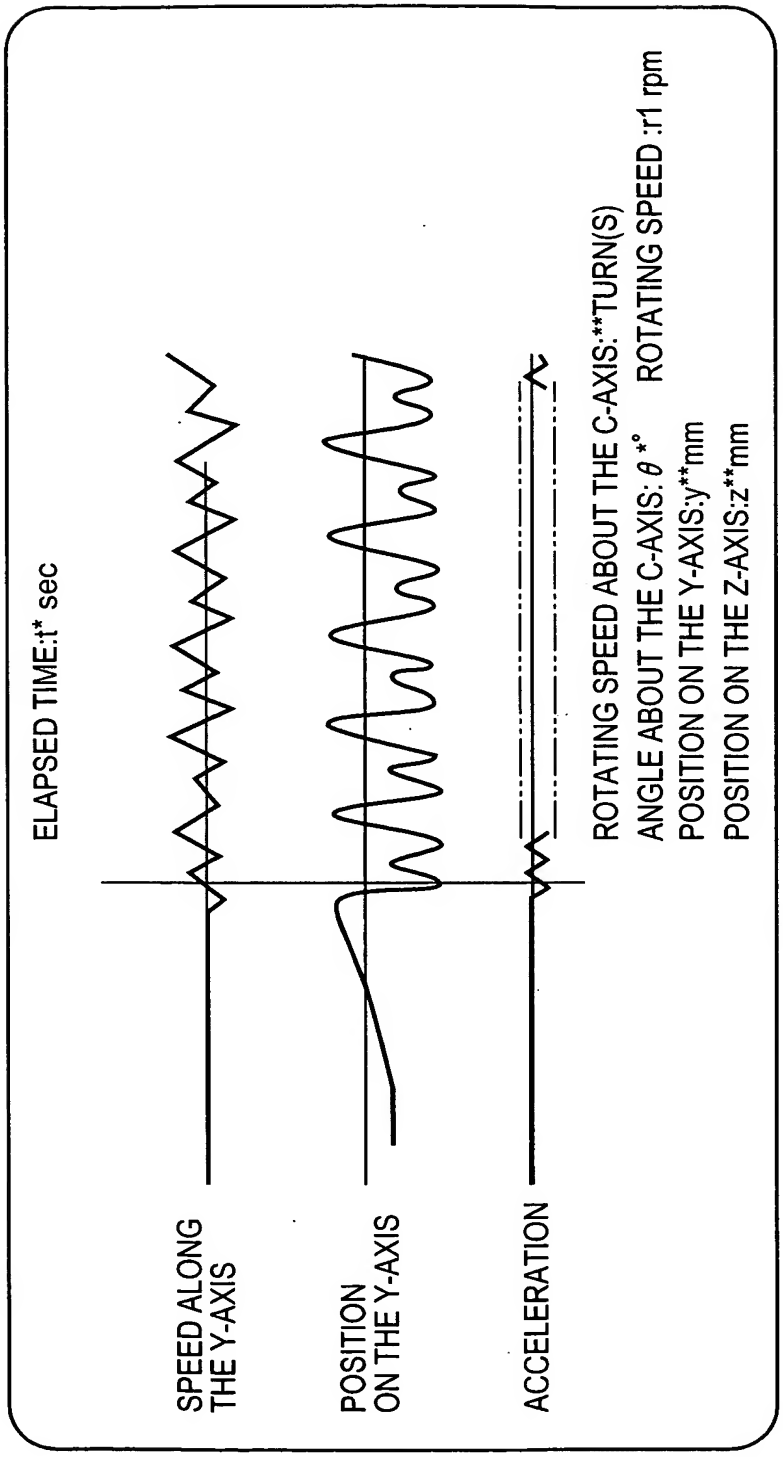
ELAPSED TIME:t* sec
SPEED ALONG THE Y-AXIS
POSITION ON THE Y-AXIS
ACCELERATION
ROTATING SPEED ABOUT THE C-AXIS:**TURN(S)
ANGLE ABOUT THE C-AXIS: θ*°
ROTATING SPEED :r1 rpm
POSITION ON THE Y-AXIS:y**mm
POSITION ON THE Z-AXIS:z**mm

FIG. 7

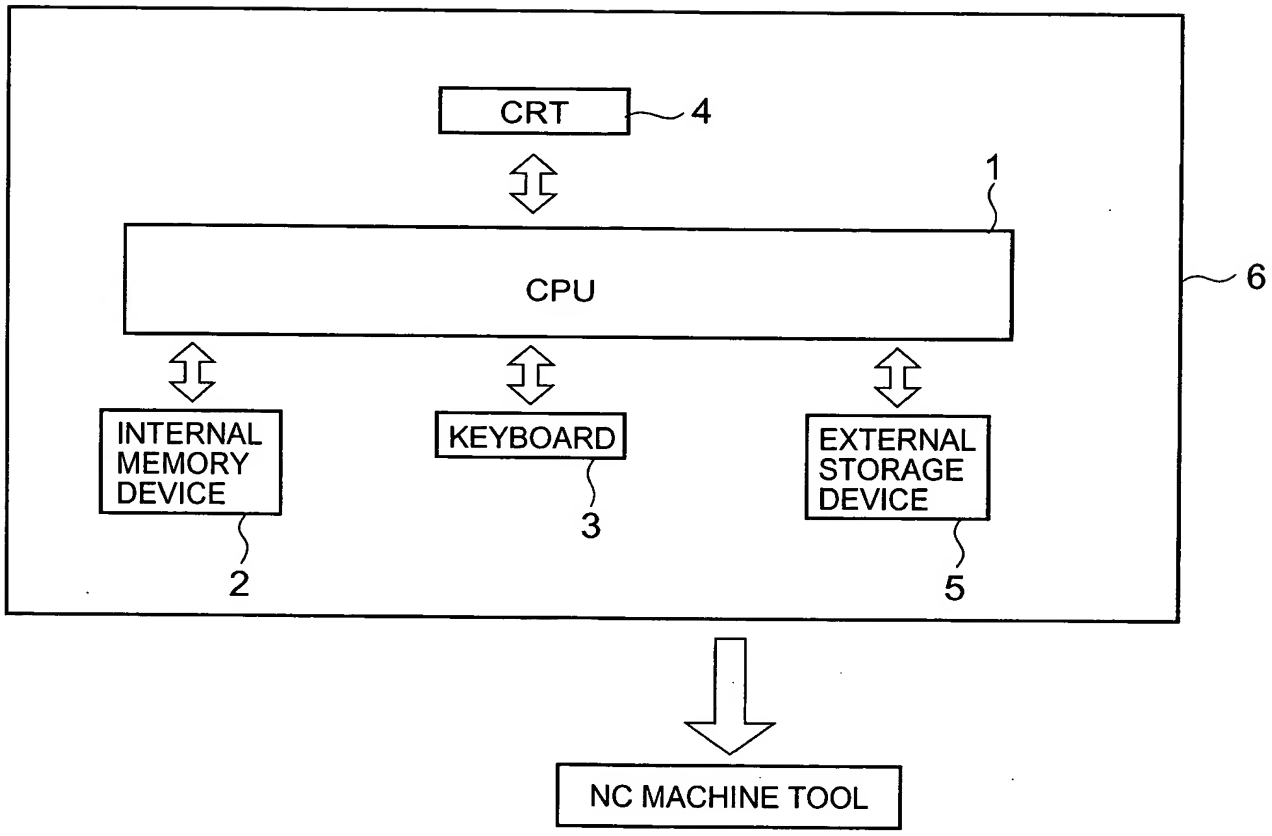
CRT
4
1
CPU
6
INTERNAL MEMORY DEVICE
2
KEYBOARD
3
EXTERNAL STORAGE DEVICE
5
NC MACHINE TOOL

FIG. 8

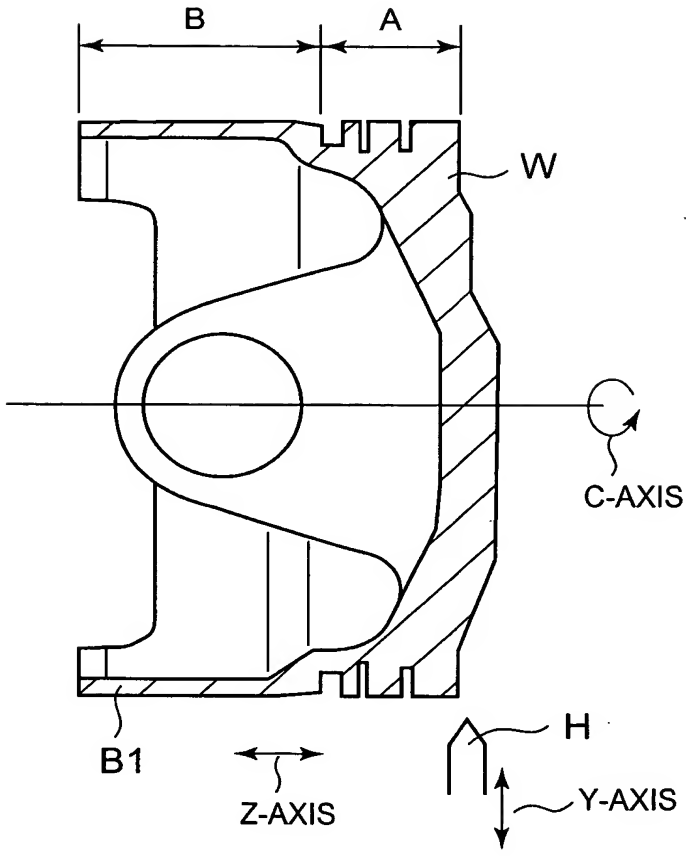

FIG. 9